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ABSTRACT

In teaching the principles of rational discourse in advanced expository writing, it is necessary to clarify the similarities and differences between the logic and rhetoric of Aristotle and to identify a common ground between the two. The study of logic within rhetoric focuses on the inductive standards used to support two kinds of argument: the general to particular, and the particular to general. These forms are defined by contrasting them with their counterparts in formal reasoning using the criteria of the strength of the relationship between premises and conclusion, and completeness. Rather than involving deductive logic and the rules for syllogisms and inference, rhetoric is concerned with defining these inductive standards through testing the truth of factual statements by considering a generalization according to the size, representation, and precision of the sample; testing the truth of evaluative statements by considering such criteria as correspondence, amount of relevant knowledge, and economy; and testing the link of evidence between the premises and conclusion-the inductive probability of the argument. With the focus on these inductive standards, the teaching of written discourse can concentrate on clear, precise language and the avoidance of fallacies. (EAI)

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Exploring the Common Ground of Rhetoric and Logic

As recently as two years ago, I remember confusing the definitions of "induction" and "deduction" in a class discussion. But not being able to remember which went with "general to particular" and which with "particular to general" was a minor embarrassment compared to my increasing awareness that much of the logic I was teaching in my advanced expository writing classes--stating and testing syllogisms, in particular--had little or no application to constructing or analyzing arguments. Further, it seemed that as a theoretical system in itself it might have serious weaknesses. Students came from logic classes with definitions which could not be reconciled with the ones I was teaching; they also used terms entirely new to me in evaluating an argument (e.g., "epistemic probability"). They even seemed to be better than I was at evaluating an argument.

I have begun with examples from my own teaching experience because I suspect that is the level at which most of us first encounter difficulties with logic. We sense that "induction" and "deduction" as defined above are inadequate but can't say exactly why. We wonder about having students memorize rules for

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testing syllogisms; we have them do it anyway, hoping it helps them to think better. I have begun to resolve these conflicts for myself by first returning to Aristotle's rhetoric and logic and then making explicit the similarities and differences between his logic and that of contemporary informal logic, the principles of rational discourse.¹ I can now delineate more clearly and accurately the common ground of rhetoric and logic; what I should be teaching in the classroom is also more apparent.

In Aristotelian logic, arguments² are classified primarily according to form. At the beginning of The Rhetoric, Aristotle defines the forms used in rhetoric (the art of discovering the available means of persuasion in a particular situation) by contrasting them with their counterparts in dialectic (the art of formal reasoning):

Whenever men in speaking effect persuasion through proofs, they do so either with examples or enthymemes; they use nothing else. Accordingly, since all demonstration (as we have shown in the Analytics) is effected either by syllogism [that is, deductively] or by induction, it follows that induction and syllogism [deduction] must be identified respectively with example and enthymeme. . The difference between example and enthymeme may be inferred from the Topics. . . . There, with reference to syllogism [deduction] and induction, it has already been observed that to derive a general law from a number of like instances is in Dialectic induction, in Rhetoric example; whereas to conclude from certain assumptions (something distinct from them yet dependent upon their existing) either universally or as a rule--this in Dialectic is called a syllogism, and in Rhetoric an enthymeme.³

The general to particular, particular to general forms of arguments in both rhetoric and dialectic are readily apparent here. Within the two forms of argument, Aristotle distinguishes between those of dialectic and those of rhetoric using two criteria:

1) the strength of the relationship between premises and conclusion and 2) completeness.

In dialectic, the relationship is as strong as is logically possible. The syllogism results in a truth derived necessarily from universal premises, or, using induction, one arrives at a universal conclusion through listing all the particulars under one generalization.⁴ Both argument forms in dialectic also fully satisfy the second criterion, completeness: premises and conclusions are stated explicitly. However, neither criterion is likely to be met in rhetoric, where one develops arguments in the realm of the probable. (Why deliberate about what is considered a certainty?) In an enthymeme, both the premises and conclusion are likely to be probabilities. Also, neither need be explicitly stated. In fact, Aristotle urges that the links in the chain of the argument be few so that the audience, "of but ordinary intelligence," can easily follow the line of reasoning. The same degrees of strength of relationships and completeness apply to the use of the example, the counterpart of rhetoric of induction (The Rhetoric, Bk. 1. 2, p. 12.).

Form, strength of relationship, and completeness--of these three criteria for classifying arguments, the first two would seem the more important, with completeness being a function of strength, as well as the variable most dependent on one's perception of individual audiences.⁵ Form remains useful as a primary criterion as long as the forms posited are able to account for all types of arguments. They are not. For example, according to Bertrand Russell, since the time of Leibniz it has been recognized that

deduction as syllogism does not account for all types of deduction (Principles of Mathematics, 2nd ed. [New York: W.W. Norton & Company, Inc., 1938], p. 10.).

In contrast, the remaining criterion, strength of relationships, provides the means for classifying (and evaluating) any type of argument, whether the truth of the premises guarantees the truth of the conclusion or there is little, if any, connection between the premises and the conclusion. The former type of argument is said to be "deductively valid"; the latter is "inductively weak." Using this criterion for classifying arguments immediately exposes the overlapping when form is used as the basis for classification. Deductively valid arguments can proceed from general to general, particular to particular, and particular to general. Inductively strong arguments may proceed from particular to particular, general to general, and general to particular. (For examples, see Skyrms, Choice and Chance, pp. 13-15.) A final advantage of focussing on the one criterion, strength of relationships: doing so permits us a precise definition of "logic" as "the study of the strength of the evidential link between the premises and conclusion of arguments." (Skyrms, p. 4.)

The following examples are illustrations of the range of possibilities when one classifies and evaluates an argument according to strength of relationships. Consider this set of statements: "Ontario is in Canada. We backpacked in Ontario, so we backpacked in Canada." This argument is deductively valid. If we assume the premises, "Ontario is in Canada," and "We backpacked in Ontario," are true, the conclusion, "We backpacked in Canada," must also be true. The link between premises and conclusion is as

strong as possible.

On the other hand, before my family's last backpacking trip, I would have argued this way: "All the backpacking trips we have been on have been both pleasant and demanding. The terrain on this next trip is similar to what we have hiked on before; we are as well equipped as we usually are; the time of year is about the same. We can expect this trip to be pleasant and demanding also." Here, even if we assume the premises to be true, the truth of the conclusion is not guaranteed, so we know immediately it is, at best, an inductively strong argument. Unlike the deductively valid example, where the conclusion claims no more than is contained in its premises, this conclusion makes a leap. I predict the nature of the upcoming trip.

I can also add premises to alter the strength of the link between premises and conclusion (technically creating a new argument), thus illustrating a principle first stated in the eighteenth century, but not used extensively until Lord Keynes' work on probability in the early part of this century (Kneale, Probability and Induction, p. 9). The previous argument on the nature of our trip seems inductively strong, especially to a self-confident backpacker. But notice how additional information, if true, makes my conclusion less warranted because the strength of the link between premises and conclusion is weakened: "The trail is incorrectly marked on the map; in some places, the trail disappears for up to half a mile; the black flies and no-see-ums are biting later this year." My conclusion is now considerably

less probable, depending of course on how I define "pleasant" and "demanding." I could have also added a premise, which, even if true, does not affect the strength of the link between premises and conclusion because it is irrelevant: "I live in Sturgis, Michigan."

Quite obviously, the degree of probability represented in the last three arguments is more typical of the situations rhetoricians are likely to be concerned with than is the first. This recognition of the province of rhetoric, noted many times elsewhere, was referred to earlier in the discussion of Aristotle's Rhetoric. Seldom do rhetoricians have the luxury of being able to claim all their premises are true and that the truth of their conclusions are guaranteed as I could in the simple argument about backpacking in Canada. They are far more likely to be concerned with probability--what usually happens or what we believe will happen. Ideally, they will first test their arguments for deductive validity. But rather than trying to make claims artificially (and fallaciously) guaranteed to be true, they will find most of their efforts directed to constructing their own inductively strong arguments and being able to recognize varying degrees of strength in other's arguments. If we accept this description of the boundaries of rhetoric, that part of logic relevant to the study of rhetoric can be more clearly and precisely defined than is the case in most writing texts. The study of logic within rhetoric ought to focus on a study of inductive standards.⁶

With the common ground of logic and rhetoric thus defined, students of rhetoric need no longer concern themselves with elaborate rules for stating and testing syllogisms or with other rules of deductive inference. They are the province of deductive logic. Instead, rhetoricians are freed to turn their attention to inductive standards through:

- 1.a) testing the truth of factual statements by considering how the generalization was arrived at: whether or not the sample is large enough, representative, and precise;
- b) testing the truth of evaluative statements by considering such criteria as correspondence, amount of relevant knowledge, economy.
2. testing the evidential link between premises and conclusion--the inductive probability of the argument--as already noted.⁷

There is an additional test which one might decide is a refinement of interest more to logicians than to rhetoricians. I discuss it here primarily because it explains "epistemic probability," the term which tantalized me sufficiently to get me to study more informal logic. (See also Skyrms, pp. 15-18.) Theoretically at least, the inductive probability of an argument will not vary according to who makes the evaluation and when. Logicians, however, also want to decide whether this is best possible argument. To do that, they examine statements within the arguments, both premises and conclusion, for their epistemic probability. This probability will vary depending on the amount of relevant knowledge possessed by a particular person at a particular time. Obviously, the epistemic probability of any statements I'd make now to someone proposing the same backpacking trip as ours would be far greater for me and my audience than that for any claims made prior to our trip. Similarly, if I

predict at the beginning of a semester that X will get an "A" in my class, that prediction has considerably less epistemic probability for me and my audience than if I waited until the last week of class to make the prediction, when all the grades except the final would be in. In short, using the notion of epistemic probability, we place statements in an argument in a perspective that allows us to consider what an argument could be in addition to what it now is.

Once we have re-oriented ourselves to the study of inductive standards, we find that concerns traditionally a part of the common ground of logic and rhetoric--clear, precise language and the avoidance of fallacies--are, as they have always been, a necessary part of our work. Other questions concerning the application of this theory come to mind. In what kinds of discourse can this theory be used? Is it simple enough for students in a class which is not primarily devoted to the study of logic?

Not surprisingly, this logic is a part of what Kinneavy has defined as "persuasive" discourse, where the primary emphasis is on the change the writer wishes to effect in the audience.⁸ It may also appear as part of another mode of discourse, particularly "reference," where the focus is on the subject matter itself.⁹ Obviously, it is applicable to much of the writing done in composition classes, both freshman and upper level.

The answer to the question of simplicity is the sort of challenge course designers and authors of textbooks respond to when they decide how many aspects of a theory they will discuss, in what order, and in how much detail. James McCrimmon's discussion of "argument" in his chapter on persuasion in Writing

With a Purpose, 6th ed. (Boston: Houghton Mifflin Company, 1976) is an example of an approach largely consistent with what has been described here, and tailored to the freshman level. For more advanced students who might be more willing to work with the theory as it is stated here, I know of none published. A text such as Monroe Beardsley's Writing with Reason (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1976) does not make the kinds of distinctions concerning the special province of logic within rhetoric which I have attempted in this essay.

Further delineating the common ground between logic and rhetoric, in theory and practice, will help our students and us to understand what we mean when we make a claim to know in different disciplines and in different modes of discourse.

Notes

¹For an introduction to the concerns of informal logic, see the preface to Ronald Munson, The Way of Words (Boston: Houghton Mifflin Company, 1976).

²An "argument," as the term is used both by Aristotle and contemporary informal logicians, is defined as, "a list of statements, one of which is designated as the conclusion and the rest of which are designated as premises." Brian Skyrms, Choice and Chance: An Introduction to Inductive Logic, 2nd ed. (Belmont, California: Dickenson Publishing Company, 1975), p. 2.

³The Rhetoric of Aristotle, Bk. 1.2, trans. Lane Cooper (New York: Appleton-Century-Crofts, Inc., 1960), p. 10. Notations in square brackets are Cooper's.

⁴This sense of induction is the same as that found in the Prior Analytics. In the Posterior Analytics, as William Kneale points out, there is also "intuitive" induction, where "it is possible to apprehend a necessary and therefore universal connexion as implicit in a particular case." Probability and Induction (London: Oxford University Press, 1949), pp. 25-26, 31.

⁵Whether for Aristotle the enthymeme as an argument using probabilities is more important than the enthymeme as abbreviated syllogism is not as simple a question as I have implied. See E. P. J. Corbett, Classical Rhetoric for the Modern Student, 2nd

ed. (New York: Oxford University Press, 1971), p. 73, and James L. Kinneavy, A Theory of Discourse (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1971), pp. 250-251. Peter T. Koper of Central Michigan University has also reminded me of some of the ambiguities in Aristotle's discussion of this matter.

⁶In CCC, December 1977, Gerald Levin, working from essentially the same definition of logic I have presented here, retains the study of deduction to a much greater extent than I have in his approach to the uses of logic in a composition class. His justification (implicit rather than explicit) is on pragmatic rather than theoretical grounds. For him, the key difference from a rhetorician's view point between deduction and induction is "in what the writer assumes about his premises." (pp. 360-361). Thus, any argument for which a writer claims deductive validity is initially treated as such; a teacher may use this claim to point out a student's error in reasoning. I have de-emphasized deduction first on theoretical grounds. The fallacies in "deductive" reasoning Levin attacks in his exercises are also covered under my discussion of inductive standards which follows.

⁷For my summary of inductive standards, I am indebted to Ned Garvin, Department of Philosophy, Albion College. He has also been kind enough to read and comment on a draft version of this paper. The study of inductive standards can be far more complex than I have stated it here. For a beginning, see Chapters III-V in Skyrms.

⁸Kinneavy, A Theory of Discourse, pp. 218-221. Kinneavy's discussion of the logic of persuasive discourse is based on Aristotle.

⁹Kinneavy, pp. 75-77. I would like to think that my discussion of logic might be seen as a bridge between Kinneavy's discussion of the "logics" of scientific and persuasive discourse.